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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/079,468	02/19/2002	Christopher M. Fender	399483	6678
30955	7590	12/29/2004	EXAMINER	
LATHROP & GAGE LC 4845 PEARL EAST CIRCLE SUITE 300 BOULDER, CO 80301			MARSCHEL, ARDIN H	
			ART UNIT	PAPER NUMBER
			1631	

DATE MAILED: 12/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/079,468	Applicant(s) FENDER ET AL.	
	Examiner Ardin Marschel	Art Unit 1631	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 July 2004 and 29 October 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) 14-19 and 21-34 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 and 20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-34 are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date (<u>2 sheets</u>). | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Applicant's election with traverse of Group I (claims 1-13 and 20) in the reply filed on 10/29/04 is acknowledged. The traversal is on the ground(s) that claim 23 is a linking claim due to sharing the commonality of using a predictive model with Groups I, II, IV, and V and Group III address seeds selected by use of the predictive model wherein claim 23 states the general case for use of the predictive model. Consideration of claim 23 vs. Groups I - V reveals firstly that claim 23 is in Group IV. Consideration of Group I vs. claim 23 reveals that claim 23 is directed to scanning and comparing assay spectra without any usage thereof anywhere in Group IV. In contrast the predictive model in Group I is directed to predictive modeling for prediction of soybean nematode resistance. Thus the predictive modeling of Group IV and Group I are which documents the und search burden of searching the predictive modeling of Groups I and IV together as well as documenting a lack of linking claim practice regarding claim 23. Consideration of Group II compared to Group IV and claim 23 therein reveals that again the predictive modeling in Group II includes prediction of genotypic resistance with yet another limitation drawn to mathematical transformation within said prediction modeling. Thus, the search burden is again different between Groups IV and II and undue if searched together. Consideration of Group III compared to Group IV and claim 23 therein reveals that Group III is a product by process Grouping of claims which in U.S. Patent Law practice may be anticipated or obvious via prior art searched regarding other processes that result in the same product other than those cited in the claims. Thus, the undue search burden regarding Group III vs. Group IV is clear regarding

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Group III being directed to seeds per se without requiring the methods of other Groups such as Group IV etc. Thus, Group IV does not link to Group III as the method of Group IV is not required for producing the seeds of Group III. Consideration of Group V compared to Group IV and claim 23 therein reveals that only the results of the method of claim 23 are utilized therein which does not require the method of claim 23 but only the results which given claim 23 are only assay spectra and not the methods therein. Thus, the search burden is different and distinct comparing each of Groups I-III and V vs. Group IV contrary to applicants arguments which are thus non-persuasive.

Applicants further argue that the seeds of Group III are patentable and thus not distinct from the method of selecting them. This argument is non-persuasive due to the above reminder that a product claimed in a product by process claim may be anticipated or made obvious by products made by another method thus directing the search to product characteristics and not methods of making them per se as cited in such claims. Additionally, the ability to patent Group III subject matter does not relieve the above noted undue search burden directed to product characteristics as not being limited to processes of making as is the instant situation wherein the products of Group III are only limited as to characteristics as having soybean cyst nematode resistance or having merely a comparable spectra scan as regarding claim 34 which depends from claim 29 which apparently applies to all seeds and is not limited by the method of claim 29 which only scans and compares spectra but cites no usage to distinguish one seed from another.

Applicants lastly argue the unrelatedness of Groups I, II, and IV. The unrelated subject matter of Groups I, II, and IV have been detailed as above as also summarized in the previous office action, mailed 6/14/04, and support the distinctness between these Groups. Applicants arguments are directed to a predictive model limitation that is deep within claim 23 to support their argument and have ignored the actual subject matter of the Groups as well as claim 23 directed to actual claim embodiments. This is equivalent to applicants noting that several inventions as claimed all are directed to a "method" or "comparing" etc. while ignoring what even one complete embodiment of a claim such as claim 23 vs. embodiments of Groups I, II, or IV are directed to support a linkage. No such extraction of a limitation from a claim to support a linking claim determination is seen in the linking claim section of the MPEP at 809.03 to support this and it is thus non-persuasive as not being provided for as a linking claim determinative consideration. Rather said MPEP at section 809.03 cites linking claims are containing divisible inventions and not limitations.

Therefore, the requirement is still deemed proper and is therefore made FINAL. Thus, claims 1-13 and 20 are presently under examination.

VAGUENESS AND INDEFINITENESS

Claims 1-13 and 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1, lines 1-2, indicates that the claim methodology is directed to predicting plural "genotypes". In contrast, the actual steps in claim 1 lack any genotype prediction

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but rather are described as being directed to predicting of resistance without any genotyping or even prediction of genotypes in part (c) of claim 1. Thus, it is unclear whether the preamble controls the metes and bounds of the claim or the actual claim steps which differ. Clarification via clearer claim wording is requested. Claims which depend directly or indirectly from claim 1 also contain this unclarity due to their dependence.

Claim 12, lines 1-2, is directed to prediction of resistance of genotypes whereas no genotyping or prediction thereof in the actual steps of claim 12. Thus, it is unclear whether the preamble controls the metes and bounds of the claim or the actual claim steps which differ. Clarification via clearer claim wording is requested. Claim 20 also similarly contains this confusing difference in metes and bounds between the preamble and instruction steps therein. Claims which depend directly or indirectly from claim 12 also contain this unclarity due to their dependence.

PRIOR ART

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

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consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-3, 5, 10, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Liu et al. [Patent Application Publication 2003/0028914 A1].

In the abstract of Liu et al. the associating of genotype and phenotype information is summarized as well as in paragraph [0022]. The analysis of various plants including soybeans is summarized in paragraph [0052] as also cited in the instant claims. As cited in several instant claims these analyses for said association includes analysis of leaves, stems, etc. as listed in paragraphs [0077] and [0078]. One of the species of such analyses is spectroscopy inclusive of infrared and near-infrared as cited in paragraph [0079]. In particular nematode resistance is described as a trait to analyze for genotype/phenotype association in the section starting with paragraph [0098], [0099], etc. In particular nematode cyst resistance is cited in paragraph [0106] wherein plants with such resistance are cited as potentially (predictable as instantly claimed) resistant and retained for seed collection. In paragraph [0112] an important aspect of the invention is the identification of genes (genotyping) responsible for mutant traits corresponding to a mutant phenotype.

Thus, it would have been obvious to someone of ordinary skill in the art at the time of the instant invention to practice the instant invention given the above summarized description of species in Liu et al. which, when taken together, suggest or motivate the genotype/genotype association species as applied to to particular species therein such as the nematode cyst resistance genotype prediction using spectral scanning inclusive of infrared scanning. It is noted that said Liu et al. description has

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been filed in a provisional application serial number 60/201,245; filed 5/1/00, which predates the instant application provisional application.

INFORMATION DISCLOSURE STATEMENT

Enclosed is a PTO Form 1449 with only 2 pages. It is noted that the pages were filed as 1 and 2 out of 3 total, however, only 2 pages were found in the paperwork.

INFORMALITIES

The disclosure is objected to because of the following informalities:

The disclosure is objected to because it contains an embedded hyperlink and/or other form of browser-executable code. See page 2, line 4, of the instant specification. Applicant is required to delete the embedded hyperlink and/or other form of browser-executable code. See MPEP § 608.01.

Appropriate correction is required.

No claim is allowed.

Papers related to this application may be submitted to Technical Center 1600 by facsimile transmission. Papers should be faxed to Technical Center 1600 via the Central PTO Fax Center. The faxing of such papers must conform with the notices published in the Official Gazette, 1096 OG 30 (November 15, 1988), 1156 OG 61 (November 16, 1993), and 1157 OG 94 (December 28, 1993)(See 37 CFR § 1.6(d)). The Central PTO Fax Center number is (571) 273-8300.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ardin Marschel, Ph.D., whose telephone number is (571) 272-0718. The examiner can normally be reached on Monday-Friday from 8 A.M. to 4 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Woodward, Ph.D., can be reached on (571) 272-0722.

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Any inquiry of a general nature or relating to the status of this application should be directed to Legal Instrument Examiner, Tina Plunkett, whose telephone number is (571) 272-0549.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

December 26, 2004

J. V. U. V. C. 10/079,468
PATENT APPLICATION
12/26/04